

## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

### 1997 ACCESSORIES & EQUIPMENT

#### Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

## DESCRIPTION

### FRONT

Wiper/washer system is a pulse delay system. System uses a permanent-magnet, positive-park, 2-speed wiper motor. System includes LOW, HIGH, DELAY and MIST modes. Variable resistor in wiper switch adjusts amount of current to a delay module attached to wiper motor. Delay module controls current to wiper motor.

### REAR

System uses a positive-park, single-speed wiper motor. In addition to ON and OFF positions, switch on instrument panel has momentary WASH and WIPE positions. Washer pump is located in engine compartment, inside washer fluid reservoir.

## TROUBLE SHOOTING

Ensure WIPER fuse (No. 17), RADIO fuse (No. 11) and PK LPS fuse (No. 3) located in instrument panel fuse block are okay. Visually inspect all system related connectors for being properly seated. Visually inspect wiper arm transmission for damage.

### FRONT WIPER/WASHER SYSTEM OPERATION CHECK

1. Turn ignition switch to RUN position. Press and hold front washer button to ON position for 1-2 seconds. Washer should spray windshield for as long as button is held. Wipers should run at low speed and continue to run for approximately 6 seconds after washer cycle is complete, then return to Park position.
2. Move front wiper switch to DELAY position. Move wiper switch through delay range. Wipers should make one complete sweep, then pause for 1-25 seconds (depending on delay setting) before making next sweep.
3. Leave front wiper switch in DELAY position. Press and hold front washer button to ON position for 1-2 seconds. Washer should spray windshield for as long as button is held. Wipers should run at low speed and continue to run for approximately 6 seconds after washer cycle is complete, then return to DELAY (pulse) mode.
4. Move front wiper switch to LOW position. Wipers should operate continuously at low speed.
5. Move front wiper switch to HIGH position. Wipers should operate continuously at high speed.
6. Move front wiper switch to OFF position. Wipers should return to Park position at low speed.
7. Move front wiper switch to MIST position, and then release. Wipers should make one complete sweep at low speed, and then Park.
8. If front wiper switch is held in MIST position, wipers should run continuously at LOW speed until switch is released.
9. If front wiper/washer system works intermittently, or is completely inoperative, refer to **SPECIAL**

## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

**POLICY ADJUSTMENT - WINDSHIELD WIPER MOTOR FAILURES** Service Campaign Bulletin 02054A dated May 9, 2003 prior to making repairs.

10. After reviewing Service Campaign Bulletin 02054A noted above, if wiper system does not function properly, perform appropriate test. See **SYSTEM TESTS** .

### REAR WIPER/WASHER SYSTEM OPERATION CHECK

1. Push rear window washer switch to WASH position. Washer should spray until switch is released. Wiper should continue to operate for approximately 3 cycles.
2. Turn wiper/washer switch to LO position. Wiper should operate with approximately a 5 second delay between wipe cycles.
3. Turn wiper/washer switch to HI position. Wiper should operate constantly at a faster speed. If wiper system does not function properly, perform appropriate test. See **SYSTEM TESTS** .

### SYSTEM TESTS

**WARNING:** Vehicles are equipped with Supplemental Restraint System (SRS). Air bag system **MUST** be disabled before servicing **ANY** steering column component. Disabling system will prevent accidental air bag deployment, resulting in possible serious injury or property damage. See **DISABLING & ACTIVATING SIR SYSTEM** in **AIR BAG RESTRAINT SYSTEMS** article.

### FRONT WIPER/WASHER SYSTEM

**CAUTION:** If front wiper/washer system works intermittently, or is completely inoperative, refer to **SPECIAL POLICY ADJUSTMENT - WINDSHIELD WIPER MOTOR FAILURES** Service Campaign Bulletin 02054A dated May 9, 2003 prior to making repairs.

**NOTE:** Ensure WIPER fuse (No. 17) located in instrument panel fuse block is okay before testing system.

#### Washer Inoperative, Wipers Operate

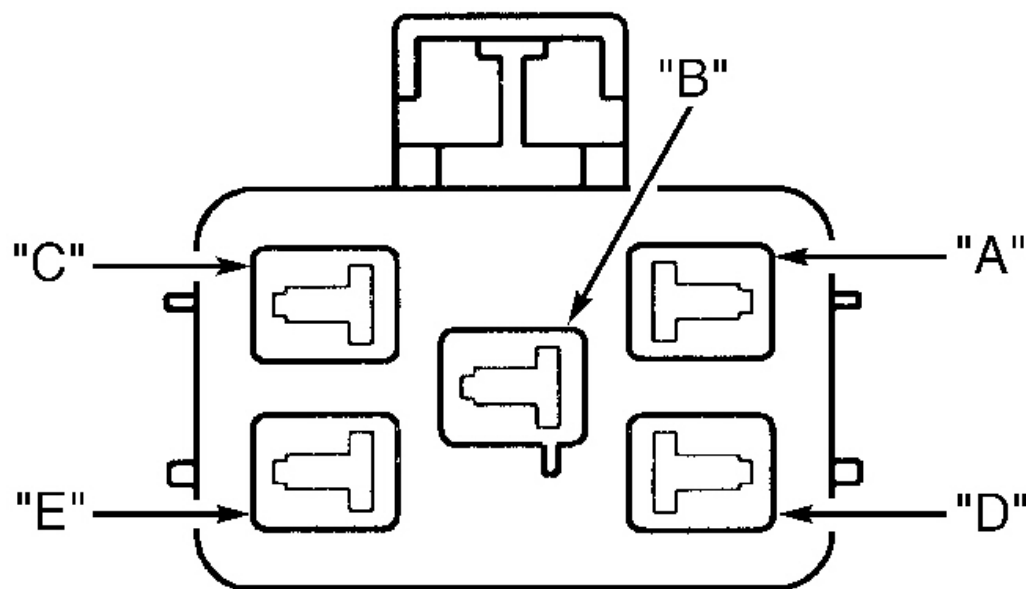
1. If washer pump motor does not run, go to next step. If washer pump motor runs, check for the following:
  - Adequate washer solvent in washer reservoir.
  - Washer hoses for being pinched, kinked or damaged.
  - Proper washer hose connections at washer nozzles and washer pump motor.
  - Ensure pick-up screen on end of feed hose in washer reservoir is not plugged.
  - Ensure washer nozzles are not plugged.
2. Disconnect washer pump connector. Washer pump is located in washer reservoir, in left front corner of engine compartment. Turn ignition ON and wiper switch to LO position. Connect test light between washer pump connector terminals. Observe test light with WASH button pushed. If test light is on,

## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

replace washer pump. If test light is not on, go to next step.

3. Using test light, backprobe between ground and washer pump connector Pink wire terminal with WASH button pushed. If test light is not on, go to next step. If test light is on, repair open in Black wire between washer pump connector terminal "B" and ground.
4. Using test light, backprobe between ground and wiper motor connector terminal "A" (Pink wire) with WASH button pushed. See **Fig. 1** . If test light is not on, go to next step. If test light is on, repair open in Pink wire between wiper motor connector terminal "A" and washer pump.
5. Using test light, backprobe between ground and wiper motor connector terminal "E" (Brown wire) with WASH button pushed. If test light is not on, go to next step. If test light is on, remove wiper motor cover. Ensure spring contacts are making proper contact. If no problem is found with spring contacts, replace wiper motor circuit board. See **WIPER MOTOR CIRCUIT BOARD (FRONT)** under REMOVAL & INSTALLATION.
6. Check for open in Brown wire between wiper motor connector terminal "E" and washer switch. Repair as necessary. If Brown wire is okay, replace washer switch. See **WIPER SWITCH** under REMOVAL & INSTALLATION.



G98D00409

**Fig. 1: Identifying Wiper Motor Wiring Harness Connector Terminals**  
Courtesy of GENERAL MOTORS CORP.

Washer Pumps Continuously

## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

1. Turn ignition ON and wiper switch to LO position. Using test light, backprobe between ground and wiper motor connector terminal "A" (Pink wire). See **Fig. 1** .
2. Observe test light while momentarily pushing WASH button. If test light stays on after WASH button is released, go to next step. If test light goes out after WASH button is released, replace wiper motor cover. See **WIPER MOTOR CIRCUIT BOARD (FRONT)** . Check washer switch. Repair/replace as necessary.

### Wipers Inoperative In All Modes

**CAUTION:** If front wiper/washer system works intermittently, or is completely inoperative, refer to **SPECIAL POLICY ADJUSTMENT - WINDSHIELD WIPER MOTOR FAILURES** Service Campaign Bulletin 02054A dated May 9, 2003 prior to making repairs.

1. Turn ignition ON and wiper switch to HIGH position. Using test light, backprobe between ground and wiper motor connector Purple wire terminal. If test light is on, go to next step. If test light is not on, go to step 3 .
2. Turn wiper switch to LO position. Connect jumper wire between wiper motor case and chassis ground. If wiper motor operates, repair ground circuit as necessary. If wiper motor does not operate, replace wiper motor. See **WIPER MOTOR** under REMOVAL & INSTALLATION.
3. Using test light, backprobe between ground and wiper motor connector Yellow wire terminal. If test light is on, go to next step. If test light is not on, check WIPER fuse (No. 17). If fuse is okay, repair open circuit in Yellow wire between instrument panel fuse block and wiper motor. If fuse is blown, replace as necessary and check for short to ground in Yellow wire circuit.
4. Check for open in Purple wire between wiper motor connector and wiper switch. Check for faulty wiper switch. Check for open in Yellow wire between WIPER fuse and wiper switch. Repair as necessary.

### Wipers Run In Low Speed Only

Disconnect wiper motor harness connector. Using jumper wire, connect battery voltage to wiper motor terminal "A". See **Fig. 1** . Connect a second jumper wire between ground and wiper motor terminal "B". If wiper motor does not operate, replace wiper motor. See **WIPER MOTOR** under REMOVAL & INSTALLATION. If wiper motor operates, check for open in Purple wire between wiper motor connector and wiper switch. Check for faulty wiper switch. Repair as necessary.

### Wipers Run In High Speed Only

Disconnect wiper motor harness connector. Using jumper wire, connect battery voltage to wiper motor terminal "C". See **Fig. 1** . Connect a second jumper wire between ground and wiper motor terminal "B". If wiper motor does not operate, replace wiper motor. See **WIPER MOTOR** under REMOVAL & INSTALLATION. If wiper motor operates, check for open in Brown wire between wiper motor connector and wiper switch. Check for faulty wiper switch. Repair as necessary.

### Wipers Run At One Speed Only

1. Disconnect wiper motor harness connector. Using jumper wire, connect battery voltage to wiper motor

## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

terminal "C". See **Fig. 1** . Connect a second jumper wire between ground and wiper motor terminal "B". Wipers should run at low speed.

2. Disconnect jumper wire from wiper motor terminal "C". Using jumper wire, connect battery voltage to wiper motor terminal "A". Ensure second jumper wire is still connected between ground and wiper motor terminal "B". Wipers should run at high speed.
3. If wipers operate at correct speeds, check wiring between wiper switch and wiper motor. Repair as necessary. If wiring tests okay, replace wiper switch. See **WIPER SWITCH** under REMOVAL & INSTALLATION.
4. If wipers do not operate at correct speeds, replace wiper motor. See **WIPER MOTOR** under REMOVAL & INSTALLATION.

### Wipers Shut Off, But Will Not Park

1. Disconnect wiper motor harness connector. Using jumper wire, connect battery voltage to wiper motor terminal "E". See **Fig. 1** . Connect a second jumper wire between wiper motor terminals "D" and "C". If wipers park, go to next step. If wipers do not park, replace circuit board. See **WIPER MOTOR CIRCUIT BOARD (FRONT)** under REMOVAL & INSTALLATION. If wipers still will not park, replace wiper motor. See **WIPER MOTOR** under REMOVAL & INSTALLATION.
2. Turn wiper switch to OFF position. Check for continuity between wiper motor harness connector terminals "A" (Pink wire) and "E" (Brown wire). See **Fig. 1** . If continuity is present, repair open circuit between wiper motor connector terminal "C" and instrument panel fuse block. If continuity is not present, repair open circuit between wiper motor connector terminal "E" and wiper switch. If fault is still present, replace wiper/washer switch. See **WIPER SWITCH** under REMOVAL & INSTALLATION.

### Wipers Will Not Shut Off

Disconnect wiper motor harness connector. Using jumper wire, connect battery voltage to wiper motor terminal "E". See **Fig. 1** . Connect a second jumper wire between wiper motor terminals "D" and "C". If wipers park, replace wiper/washer switch. See **WIPER SWITCH** under REMOVAL & INSTALLATION. If wipers still run, replace wiper motor. See **WIPER MOTOR** under REMOVAL & INSTALLATION.

### Wipers Operate Intermittently

**CAUTION:** If front wiper/washer system works intermittently, or is completely inoperative, refer to **SPECIAL POLICY ADJUSTMENT - WINDSHIELD WIPER MOTOR FAILURES** Service Campaign Bulletin 02054A dated May 9, 2003 prior to making repairs.

1. Remove WIPER fuse from instrument panel fuse block. Connect a 0-30 amp ammeter across the fuse block terminals where the WIPER fuse was located. Turn ignition ON and wiper switch to HIGH position with windshield dry. Note the lowest current draw reading.
2. If current draw is more than 5 amps, go to next step. If current draw is less than 5 amps, replace wiper motor. See **WIPER MOTOR** under REMOVAL & INSTALLATION.

### Wiper Blades Do Not Move, Wiper Motor Runs

## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

Check wiper linkage connection to wiper crank arm. Repair/replace linkage as necessary and retest. If linkage is connected, replace wiper motor. See **WIPER MOTOR** under REMOVAL & INSTALLATION.

### Wipers Shut Off, But Park Above Normal Park Position

With wipers parked, disconnect wiper motor harness connector. Check for open between ground and wiper motor terminal "C". See **Fig. 1**. If open is found, replace wiper motor. See **WIPER MOTOR** under REMOVAL & INSTALLATION. If open is not found, check arm and blade location and/or linkage and correct as necessary.

## REAR WIPER/WASHER SYSTEM

**NOTE:** Ensure RR WPR fuse (No. 23) located in instrument panel fuse block, and RR W/W fuse located in underhood fuse block are okay before testing system.

### Rear Washer Does Not Operate, Rear Wiper Operates

1. Remove rear wiper/washer switch from instrument panel trim plate. Turn ignition switch to RUN position. Connect test light between ground and rear wiper/washer switch connector Dark Green wire. Push rear wiper/washer switch to WASH position. If test light illuminates, go to next step. If test light does not illuminate, replace rear wiper/washer switch. See **WIPER SWITCH** under REMOVAL & INSTALLATION.
2. Disconnect rear washer pump connector. Rear washer pump is mounted near center of washer reservoir, in left front corner of engine compartment. Connect test light between ground and rear washer pump connector Dark Green wire. Push rear washer switch to WASH position. If test light illuminates, go to next step. If test light does not illuminate, repair open in Dark Green wire between rear washer switch and rear washer pump.
3. Turn ignition to OFF position. Connect a self-powered test light between ground and rear washer pump connector Black wire. If test light illuminates, replace rear washer pump. If test light does not illuminate, repair open in Black wire between ground and rear washer pump.

### Rear Wiper Does Not Operate, Rear Washer Operates

1. Remove rear wiper/washer switch from instrument panel trim plate. Disconnect rear wiper/washer switch connector. Turn ignition switch to RUN position. Connect test light between ground and rear wiper/washer switch connector Yellow wire terminal. If test light illuminates, go to next step. If test light does not illuminate, repair open in Yellow wire between rear wiper/washer switch and instrument panel fuse block.
2. Turn ignition switch to OFF position. Connect rear wiper/washer switch connector. Turn ignition switch to RUN position. Turn rear wiper to ON position. Connect test light between ground and Gray wire at rear window wiper cutout switch. If test light illuminates, go to next step. If test light does not illuminate, repair open in Gray wire between rear wiper/washer switch and rear window wiper cutout switch.
3. Connect a test light between ground and rear wiper motor connector White wire terminal. If test light illuminates, go to next step. If test light does not illuminate, check for open in White wire between rear wiper motor and rear window wiper cutout switch. Repair as necessary. If White wire is okay, replace rear window wiper cutout switch.

## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

4. Turn ignition switch to OFF position. Connect a self-powered test light between ground and rear wiper motor connector Black wire terminal. If test light illuminates, replace rear wiper motor. See **WIPER MOTOR** under REMOVAL & INSTALLATION. If test light does not illuminate, repair open in Black wire between rear wiper motor and ground.

## REMOVAL & INSTALLATION

**WARNING:** Vehicles are equipped with Supplemental Restraint System (SRS). Air bag system **MUST** be disabled before servicing **ANY** steering column component. Disabling system will prevent accidental air bag deployment, resulting in possible serious injury or property damage. See **DISABLING & ACTIVATING SIR SYSTEM** in AIR BAG RESTRAINT SYSTEM article.

**CAUTION:** When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle. See **COMPUTER RELEARN PROCEDURES** article in GENERAL INFORMATION before disconnecting battery.

### WIPER MOTOR

**CAUTION:** Before replacing wiper motor and/or wiper motor circuit board, refer to **SPECIAL POLICY ADJUSTMENT - WINDSHIELD WIPER MOTOR FAILURES** Service Campaign Bulletin 02054A dated May 9, 2003.

#### Removal (Front)

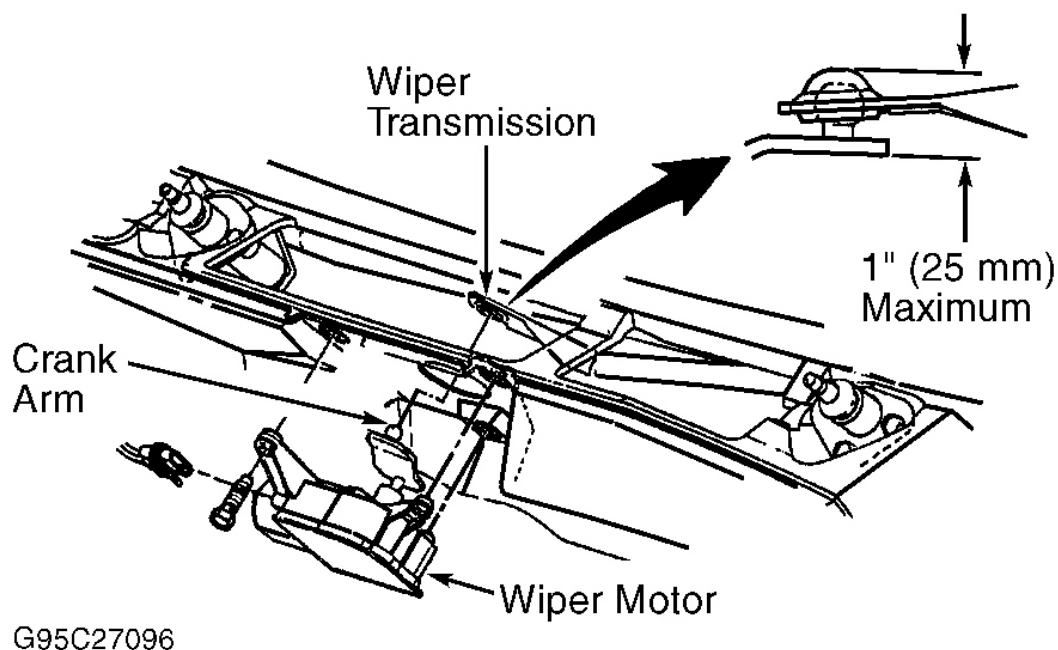
Disconnect negative battery cable. Remove wiper arms. Remove cowl vent grille and screen. Disconnect wiper motor electrical connector. Using Wiper Transmission Separator (J-39232), remove transmission from wiper motor drive link. See **Fig. 2** . Remove wiper motor mounting screws. Remove wiper motor.

#### Installation

Install wiper motor. Tighten wiper motor retaining screws to 62 INCH lbs. (7 N.m). Lubricate drive link socket with lithium grease. Install transmission to motor drive link using Wiper Transmission Installer (J-39529). Ensure transmission is assembled to drive link past second detent so that seal is compressed to a maximum height of 1" (25 mm). See **Fig. 2** . To complete installation, reverse removal procedure. Tighten wiper arm retaining nuts to 17 ft. lbs. (23 N.m).

## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup



**Fig. 2: Removing & Installing Front Wiper Motor**  
Courtesy of GENERAL MOTORS CORP.

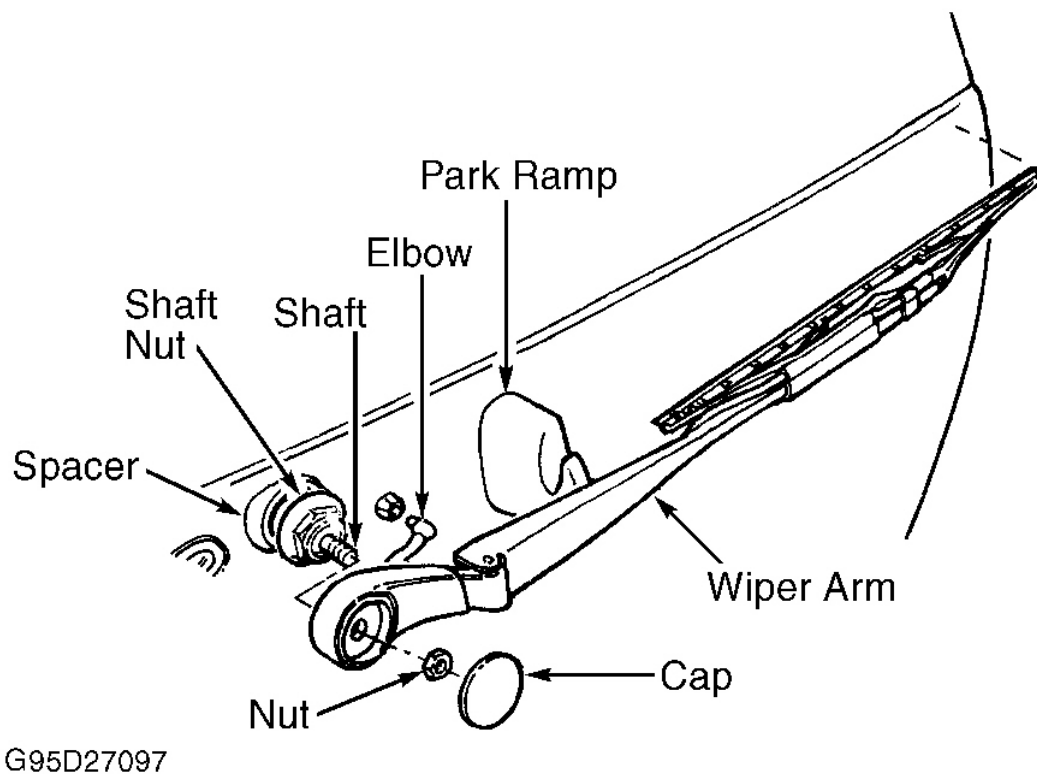
### Removal & Installation (Rear)

1. Disconnect negative battery cable. Disconnect washer hose elbow. Remove wiper arm cap and nut. Remove wiper arm. Remove nut and spacer from motor shaft. See **Fig. 3**. Remove endgate interior panel. Disconnect wiper motor electrical connector.
2. Remove wiper motor mounting screws. Remove wiper motor. To install, reverse removal procedure. Tighten wiper motor mounting screws to 57 INCH lbs. (6.5 N.m). Tighten motor shaft nut to 53 INCH lbs. (6 N.m). Tighten wiper arm retaining nut to 17 ft. lbs. (23 N.m).



## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup



**Fig. 3: Removing & Installing Rear Wiper Arm**  
Courtesy of GENERAL MOTORS CORP.

### WIPER MOTOR CIRCUIT BOARD (FRONT)

**CAUTION:** Before replacing wiper motor and/or wiper motor circuit board, refer to **SPECIAL POLICY ADJUSTMENT - WINDSHIELD WIPER MOTOR FAILURES** Service Campaign Bulletin 02054A dated May 9, 2003.

#### Removal & Installation

Disconnect negative battery cable. Remove wiper motor cover screws. Remove wiper motor cover. Pull circuit board from wiper motor. To install, reverse removal procedure. Tighten wiper motor cover screws to 23 INCH lbs. (2.6 N.m).

### WIPER SWITCH

#### Removal & Installation (Front)

1. Turn steering wheel to straight-ahead position. Disconnect negative battery cable. Remove inflator module. Remove horn contact wire from steering column.

## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

2. Remove steering wheel nut. Using a puller, remove steering wheel. DO NOT install puller bolts too far as damage to coil assembly can result.
3. Remove lower column cover screws. Pivot lower column cover down, slide back to release. Remove upper column cover. Remove multifunction switch assembly screws. Disconnect switch connector.
4. Remove switch assembly and wiring harness from column. To install, reverse removal procedure. Tighten steering wheel nut to 30 ft. lbs. (41 N.m).

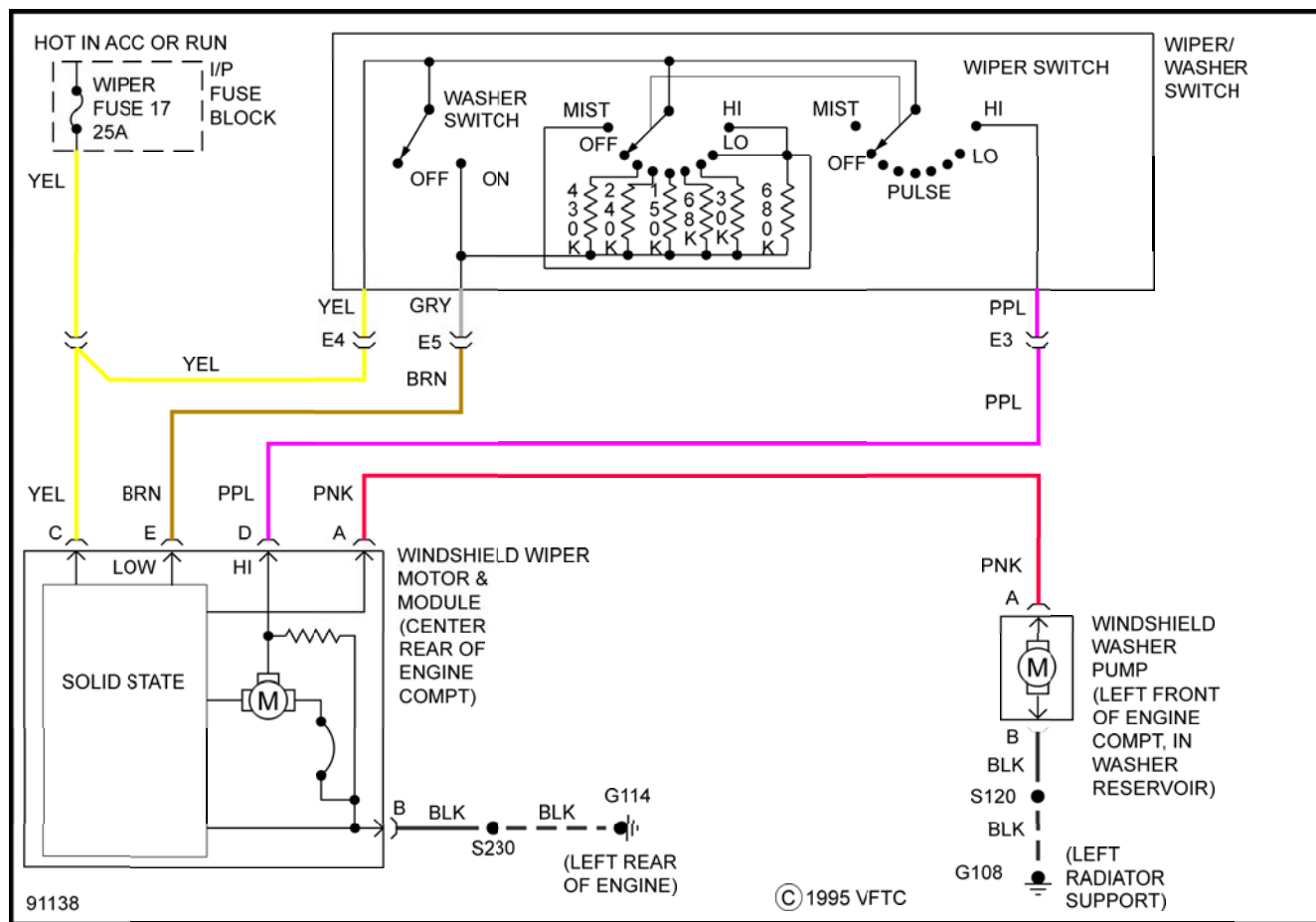
### Removal & Installation (Rear)

Disconnect negative battery cable. Remove wiper/washer switch from instrument panel trim plate. Disconnect wiper/washer switch harness connector. To install, reverse removal procedure.

## WIRING DIAGRAMS

## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup



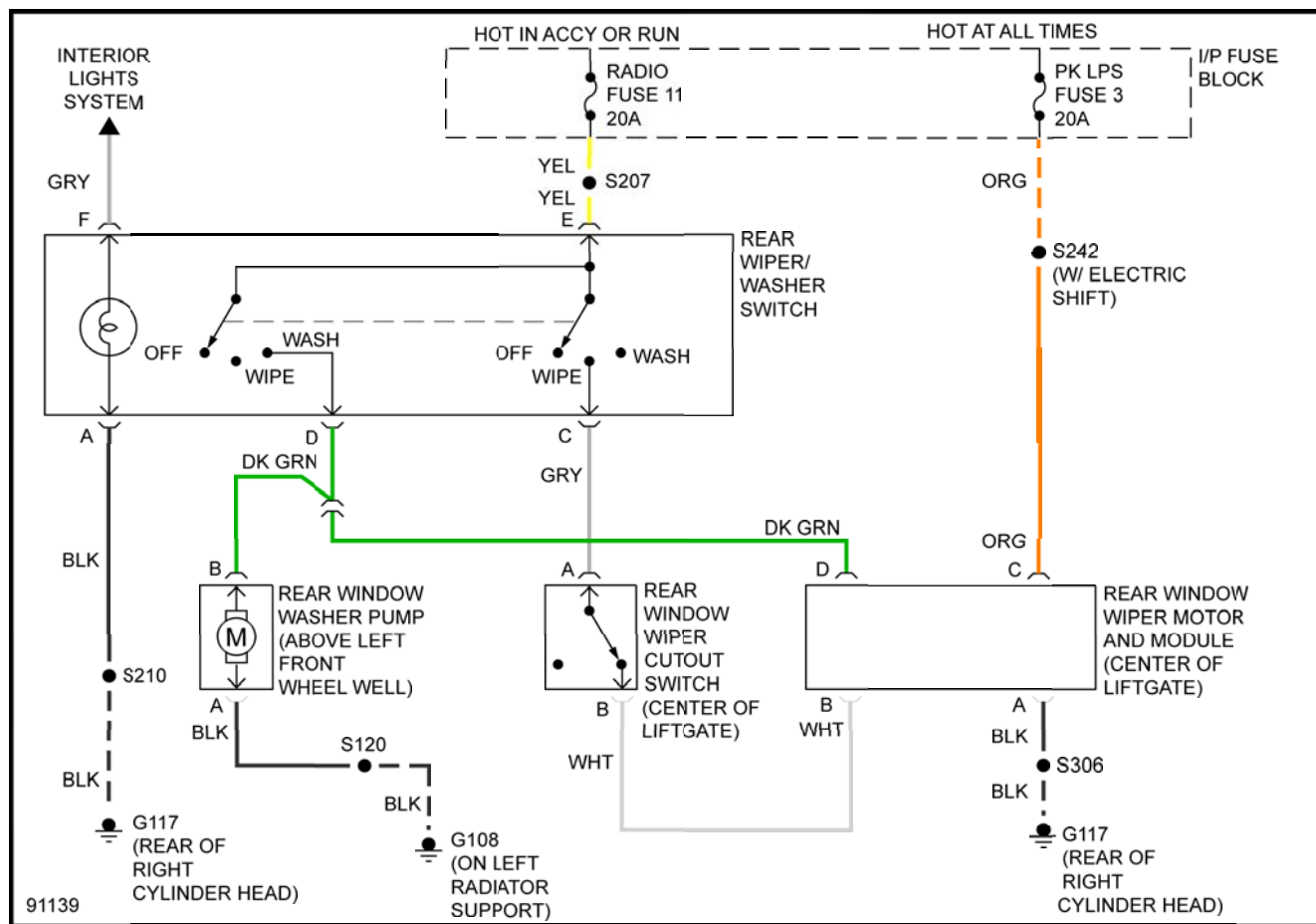
1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

**Fig. 4: Front Wiper/Washer System Wiring Diagram**

## 1997 Chevrolet S10 Pickup

1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup



1997 Chevrolet S10 Pickup
1997 ACCESSORIES & EQUIPMENT Wiper/Washer Systems - Blazer, Bravada, Jimmy, Sonoma & S10 Pickup

**Fig. 5: Rear Wiper/Washer System Wiring Diagram (Blazer, Bravada & Jimmy)**